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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/537,797

06/07/2005

Tatsuo Kamei

2005_0890A

5488

513 7590 04/09/2009

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EXAMINER

MILIA, MARK R

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

04/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,797	Applicant(s) KAMEI, TATSUO	
	Examiner Mark R. Milia	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,7,9,11,13,15,18-20,22,25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,13,15,18-20,22,25,27 and 911 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment was received on 12/29/08 and has been entered and made of record. Currently, claims 1, 3-4, 7, 9, 11, 13, 15, 18-20, 22, 25, and 27 are pending.

Drawings

2. The drawings were received on 12/29/08. These drawings are accepted.

The amendment to Fig. 1 has overcome the objection set forth in the previous Office Action. Therefore the objection has been withdrawn.

Claim Rejections - 35 USC § 101

3. Applicant's amendment to claims 20 and 22 and the cancellation of claims 21, 23, and 24 have overcome the rejection set forth in the previous Office Action. Therefore the rejection has been withdrawn.

Response to Arguments

4. Applicant's arguments filed 12/29/08 have been fully considered but they are not persuasive.

Applicant asserts that Noda (US 6,293,714) and Hamilton (US 5,715,381), or any combination thereof fails to disclose or suggest the following features, as recited in claims 1, 13, 20, and 25, a file management unit operable to manage the files using a hierarchy having at least three hierarchical layers, and operable to search the hierarchy for the files, the file management unit selectively uses, depending on the obtained print data, (i) a first management form for managing the files using hierarchical layers in the hierarchy, and (ii) a second management form for managing the files using hierarchical layers in the hierarchy, the hierarchical layers managed by the second management form being different from the hierarchical layers managed by the first management form, the first management form is for managing the files using two hierarchical layers by setting, for each print data, a storage area in a storage unit, and causing a writing unit to write the files generated from the print data into the storage area, and the second management form is a management form for managing the files using three hierarchical layers, the management using the second management form being performed by setting (i) a storage area in the storage unit for each print data, and (ii) sub-storage areas in the storage area, and by causing the writing unit to write each of the files generated from the print data into a corresponding sub-storage area of the sub-storage areas in the storage area. The examiner respectfully disagrees as the combination of

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Noda and Hamilton does disclose the above features. Particularly, Hamilton shows the storing of at least three hierarchical layers of a document, the layers being a job layer **222**, a page layer **228**, an image layer **238**, and even a layer that describes the image, as depicted in Fig. 23. Noda discloses a system that divides print data into a plurality of jobs on a page unit basis based on the capacity of the storage area, specifically the spool RAM **1030** (column 5 lines 15-20). Thereby, Noda stores the divided print data in a two layer hierarchy, being the job and page layers and when the data is to be printed the controller **1010** obtains, via searching the spool RAM **1030**, for all the divided sets of print data that pertain to a particular job and send the divided sets, pages, to the printer (column 6 lines 27-36). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the dividing of files into layers for storage and manipulation, as described by Hamilton, with the system of Noda decrease restrictions of memory capacity and thereby allow a system with a low memory/spool memory capacity to properly execute any size print job and in turn lower the cost of the host and/or printer.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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6. Claims 1, 3-4, 7, 9, 11, 13, 15, 18-20, 22, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noda (US 6,293,714) in view of Hamilton (US 5,715,381).

Regarding claim 1, Noda discloses a print control apparatus for use in a printer that prints, using a printer engine, a content to be printed based on information indicating the content, said print control apparatus obtaining and processing the information and causing the printer engine of the printer to print the content, said print control apparatus comprising: an obtainment unit operable to obtain print data including the information indicating the content to be printed, the print data being from outside said print control apparatus (see column 3 lines 36-37), a division unit operable to divide the print data obtained by said obtainment unit into the files (see column 2 lines 3-12 and column 5 lines 15-36), a storage unit in which the files are stored (see Fig. 1 **2003** and column 9 lines 47-50, reference states that the processes of the system of the host computer and the printer can be applied to single equipment), a writing unit operable to write the files in said storage unit (see Fig. 1 **2001**), and a file management unit operable to manage the files written by said writing unit in said storage unit, the files written in said storage unit being managed using a hierarchy, and operable to search the hierarchy for the files (see Fig. 12, column 2 lines 7-12, and column 5 lines 15-50, reference shows that print data is divided based on the size of the storage area **2003** and the size of the data to be printed and that the print jobs are sequentially stored and then are searched to obtain the data, and respective divisions of the job, to ready the data for printing), wherein said file management unit is operable to selectively use,

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depending on the print data obtained by said obtainment unit, (i) a first management form for managing the files using hierarchical layers in the hierarchy, and (ii) a second management form for managing the files using hierarchical layers in the hierarchy, the hierarchical layers managed by the second management form being different from the hierarchical layers managed by the first management form, wherein the first management form is a management form for managing the files written in said storage unit, the first management form managing the files using two hierarchical layers by setting, for each print data, a storage area in said storage unit, and causing the writing unit to write the files generated from the respective print data into the storage area (see column 5 lines 15-20 and column 6 lines 27-36, print data is divided into a plurality of jobs on a page unit basis based on the capacity of the storage area, specifically the spool RAM **1030**, the divided print data in a two layer hierarchy, being the job and page layers and when the data is to be printed the controller **1010** obtains, via searching the spool RAM **1030**, for all the divided sets of print data that pertain to a particular job and send the divided sets, pages, to the printer, reference further states that division of the print data is only performed when the print job is greater in size than the memory capacity of the storage area, thereby management of print data is selectively used).

Noda does not disclose expressly wherein the second management form is a management form for managing the files written in said storage unit, the second management form managing the files using three hierarchical layers, the managing using the second management form being performed by setting (i) a storage area in said storage unit for each print data, and (ii) sub-storage areas in the storage area, and

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by causing said writing unit to write each of the files generated from the respective print data into a corresponding sub-storage area of the sub-storage areas in the storage area.

Hamilton discloses wherein the second management form is a management form for managing the files written in said storage unit, the second management form managing the files using three hierarchical layers, the managing using the second management form being performed by setting (i) a storage area in said storage unit for each print data, and (ii) sub-storage areas in the storage area, and by causing said writing unit to write each of the files generated from the respective print data into a corresponding sub-storage area of the sub-storage areas in the storage area (see Fig. 23, column 12 line 62-column 13 line 48, reference shows the storing of at least three hierarchical layers of a document, the layers being a job layer **222**, a page layer **228**, an image layer **238**, and even a layer that describes the image, and reference also shows sub-layers that contain information related to each layer, which is analogous to a sub-storage area).

Regarding claims 13 and 20, Noda discloses a print control method for use in a printer that prints, using a printer engine, a content to be printed based on information indicating the content, said print control apparatus obtaining and processing the information and causing the printer engine of the printer to print the content, said print control apparatus comprising: an obtainment step of obtaining print data including the information indicating the content to be printed (see column 3 lines 36-37), a division step of dividing the print data obtained by said obtainment step into files (see column 2

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lines 3-12 and column 5 lines 15-36), a writing step of writing the files in a memory (see Fig. 1 **2001**), and a file management step of managing the files written in the memory, the files written in the memory being managed using a hierarchy, and a search step of searching the hierarchy for the files (see Fig. 12, column 2 lines 7-12, and column 5 lines 15-50, reference shows that print data is divided based on the size of the storage area **2003** and the size of the data to be printed and that the print jobs are sequentially stored and then are searched to obtain the data, and respective divisions of the job, to ready the data for printing), wherein, in said file management step, a first management form for managing the files using hierarchical layers in the hierarchy, and a second management form for managing the files using hierarchical layers in the hierarchy, the hierarchical layers managed by the second management form being different from the hierarchical layers managed by the first management form, wherein the first management form is a management form for managing the files written in said storage unit, the first management form managing the files using two hierarchical layers by setting, for each print data, a storage area in said storage unit, and causing the writing unit to write the files generated from the respective print data into the storage area (see column 5 lines 15-20 and column 6 lines 27-36, print data is divided into a plurality of jobs on a page unit basis based on the capacity of the storage area, specifically the spool RAM **1030**, the divided print data in a two layer hierarchy, being the job and page layers and when the data is to be printed the controller **1010** obtains, via searching the spool RAM **1030**, for all the divided sets of print data that pertain to a particular job and send the divided sets, pages, to the printer, reference further states that division of the

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print data is only performed when the print job is greater in size than the memory capacity of the storage area, thereby management of print data is selectively used).

Noda does not disclose expressly wherein the second management form is a management form for managing the files written in said storage unit, the second management form managing the files using three hierarchical layers, the managing using the second management form being performed by setting (i) a storage area in said storage unit for each print data, and (ii) sub-storage areas in the storage area, and by causing said writing unit to write each of the files generated from the respective print data into a corresponding sub-storage area of the sub-storage areas in the storage area.

Hamilton discloses wherein the second management form is a management form for managing the files written in said storage unit, the second management form managing the files using three hierarchical layers, the managing using the second management form being performed by setting (i) a storage area in said storage unit for each print data, and (ii) sub-storage areas in the storage area, and by causing said writing unit to write each of the files generated from the respective print data into a corresponding sub-storage area of the sub-storage areas in the storage area (see Fig. 23, column 12 line 62-column 13 line 48, reference shows the storing of at least three hierarchical layers of a document, the layers being a job layer **222**, a page layer **228**, an image layer **238**, and even a layer that describes the image, and reference also shows sub-layers that contain information related to each layer, which is analogous to a sub-storage area).

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Regarding claim 25, Noda discloses a printer comprising: a printer engine for printing a content based on a file indicating the content to be printed (see Fig. 1 **2004** and column 3 lines 53-54), a print control apparatus for obtaining and processing the information and causing said printer engine to print the content, wherein said print control apparatus includes: an obtainment unit operable to obtain print data including the information indicating the content to be printed, the print data being from outside said print control apparatus (see column 3 lines 36-37), a division unit operable to divide the print data obtained by said obtainment unit into the files (see column 2 lines 3-12 and column 5 lines 15-36), a storage unit in which the files are stored (see Fig. 1 **2003** and column 9 lines 47-50, reference states that the processes of the system of the host computer and the printer can be applied to single equipment), a writing unit operable to write the files in said storage unit (see Fig. 1 **2001**), and a file management unit operable to manage the files written by said writing unit in said storage unit, the files written in said storage unit being managed using a hierarchy, and operable to search the hierarchy for the files (see Fig. 12, column 2 lines 7-12, and column 5 lines 15-50, reference shows that print data is divided based on the size of the storage area **2003** and the size of the data to be printed and that the print jobs are sequentially stored and then are searched to obtain the data, and respective divisions of the job, to ready the data for printing), wherein said file management unit is operable to selectively use, depending on the print data obtained by said obtainment unit, (i) a first management form for managing the files using hierarchical layers in the hierarchy, and (ii) a second management form for managing the files using hierarchical layers in the hierarchy, the

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hierarchical layers managed by the second management form being different from the hierarchical layers managed by the first management form, wherein the first management form is a management form for managing the files written in said storage unit, the first management form managing the files using two hierarchical layers by setting, for each print data, a storage area in said storage unit, and causing the writing unit to write the files generated from the respective print data into the storage area (see column 5 lines 15-20 and column 6 lines 27-36, print data is divided into a plurality of jobs on a page unit basis based on the capacity of the storage area, specifically the spool RAM **1030**, the divided print data in a two layer hierarchy, being the job and page layers and when the data is to be printed the controller **1010** obtains, via searching the spool RAM **1030**, for all the divided sets of print data that pertain to a particular job and send the divided sets, pages, to the printer, reference further states that division of the print data is only performed when the print job is greater in size than the memory capacity of the storage area, thereby management of print data is selectively used).

Noda does not disclose expressly wherein the second management form is a management form for managing the files written in said storage unit, the second management form managing the files using three hierarchical layers, the managing using the second management form being performed by setting (i) a storage area in said storage unit for each print data, and (ii) sub-storage areas in the storage area, and by causing said writing unit to write each of the files generated from the respective print data into a corresponding sub-storage area of the sub-storage areas in the storage area.

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Hamilton discloses wherein the second management form is a management form for managing the files written in said storage unit, the second management form managing the files using three hierarchical layers, the managing using the second management form being performed by setting (i) a storage area in said storage unit for each print data, and (ii) sub-storage areas in the storage area, and by causing said writing unit to write each of the files generated from the respective print data into a corresponding sub-storage area of the sub-storage areas in the storage area (see Fig. 23, column 12 line 62-column 13 line 48, reference shows the storing of at least three hierarchical layers of a document, the layers being a job layer **222**, a page layer **228**, an image layer **238**, and even a layer that describes the image, and reference also shows sub-layers that contain information related to each layer, which is analogous to a sub-storage area).

Noda & Hamilton are combinable because they are from the same field of endeavor, managing multiple documents for subsequent output.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the dividing of files into layers for storage and manipulation, as described by Hamilton, with the system of Noda.

The suggestion/motivation for doing so would have been to provide a greater ability to divide the print data due to memory capacity restrictions of a storage area.

Therefore, it would have been obvious to combine Hamilton with Noda to obtain the invention as specified in claims 1, 13, 20, and 25.

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Regarding claims 3, 15, 22, and 27, Noda further discloses wherein said division unit is operable to divide the print data on a page-by-page basis and operable to generate a file including information equivalent to each page (see column 2 lines 7-9 and column 5 lines 15-19).

Regarding claim 4, Hamilton further discloses wherein said division unit is operable to divide the print data on an area-by-area basis, the area being smaller than a page, and operable to generate a file including information equivalent to each page (see Fig. 23 and column 12 line 62-column 13 line 48).

Regarding claims 7 and 18, Noda further discloses wherein said file management unit is operable to set an upper limit of a number of print data to be written in said storage unit as the files and operable to prohibit said writing unit from writing an amount of print data that is over the upper limit (see column 2 lines 3-12 and column 5 lines 6-14).

Regarding claim 9, Noda further discloses wherein said file management unit is operable to selectively use the first management form and the second management form depending on a number of files comprising the print data obtained by said obtainment unit (see column 4 lines 55-65 and column 5 lines 2-19, reference shows that based on print data size division of the print data is carried out or not).

Regarding claims 11 and 19, Noda further discloses wherein said file management unit is operable to set, in said storage unit, a storage area in which a number of files under a predetermined upper limit are written, and wherein said file management unit is operable to newly set the storage area, and operable to cause said

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writing unit to write the files in the new storage area when the number of files written in the storage area reaches the upper limit (see column 2 lines 3-12 and column 5 lines 6-14).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571)272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached at (571) 272-7437. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark R. Milia
Examiner
Art Unit 2625

/Mark R. Milia/
Examiner, Art Unit 2625

/David K Moore/
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